

REMARKS

In view of the foregoing amendments and the following remarks, reconsideration and allowance are requested.

Status of Claims

Claims 24, 30, 37, 38, 44, and 57-59 stand objected under 37 CFR 1.75(c) as allegedly being in improper dependent form. The independent claims from which these claims depend have been amended to obviate the objections.

Claims 1, 2, 9, 10, 20-23, 25, 27, 29-33, 35-64, 68 and 70 stand rejected under 35 U.S.C. 112, second paragraph for allegedly being indefinite. These rejected claims have been directly or indirectly amended to obviate the rejections.

Claims 1-2, 7-10, 13, 14, 18-24, 25-64, 68-71 and 73 stand rejected under 35 U.S.C. 103(a) in the Office Action.

Claims 3-6, 11-12, 15-17, 65-67, and 72 are noted in the Office Action as having allowable subject matter.

The amendments in this response place the pending claims, Claims 1-73, in condition for allowance.

Claim Rejections - 37 CFR 1.75(c) and 35 U.S.C. 112

Claims 24, 30, 37, 38, 44, and 57-59 stand objected under 37 CFR 1.75(c) as allegedly being in improper dependent form. Claims 1, 2, 9, 10, 20-23, 25, 27, 29-33, 35-64, 68 and 70 stand rejected under 35 U.S.C. 112, second paragraph. These claims and claims from which these claims depend have been amended to obviate the objections. In particular, Claims 1, 7, 9, 13 and 18-23 have been amended to place the 37 CFR 1.75(c) objected

claims and the 35 U.S.C. 112 rejected claims in condition for allowance.

In Claims 1 and 9, "introducing a first impurity into said impurity region" has been amended to "introducing a first impurity into said channel forming region." Furthermore, "forming an impurity region" has been amended to "forming impurity regions."

In Claims 20 and 23, "forming an impurity region" has been amended to "forming impurity regions."

For Claims 25, 27, 29-33, 35, 37-40, 42, 44-47, 49, 51-54, 56, 58-61 and 63, "forming an impurity region" has been amended to "forming impurity regions" in Claims 18-23. Claims 25, 27, 29-33, 35, 37-40, 42, 44-47, 49, 51-54, 56, 58-61 and 63 depend upon Claims 18-23.

For Claim 36, "said impurity elements" has been amended to "impurity elements for forming said impurity regions."

For Claims 43, 50, 57 and 64, "said impurity elements" has been amended to "said impurity element."

In Claims 20-23, "an impurity element is added to said impurity region" has been deleted. Also, "forming an intrinsic or substantially intrinsic region and an impurity region in said channel forming region" in Claims 20-23 has been amended to "adding impurity elements to form an intrinsic or substantially intrinsic region and impurity regions in said channel forming region."

Due to the above amendments, the objection to Claims 24, 30, 37, 38, 44, and 57-59 and the rejections to Claims 1, 2, 9, 10, 20-23, 25, 27, 29-33, 35-64, 68 and 70 have been obviated to place these claims in condition for allowance.

Claim Rejections - 35 U.S.C. 103(a)

Claims 7-10, 13, 14, 18-24, 26, 29, 30, 32, 35-37, 39, 42-44, 46, 49-51, 53, 56, 57, 58, 60, 63, 64, 69-71 and 73 stand rejected under 35 U.S.C. 103(a) for allegedly being obvious over U.S. Patent No. 6,236,064 to Mase et al. ("Mase") in view of U.S. Patent No. 5,403,772 to Zhang et al ("Zhang"). The rejected independent Claims 7, 9, 13, and 18-23 have been amended to include the feature of "one or a plurality of rows extending in a direction of a channel length of said channel forming region." The cited prior art does not suggest the amended feature of "one or a plurality of rows extending in a direction of a channel length of said channel forming region," as shown in Figs. 13A-B of the application. This feature is absent from the prior art. The Claims 8, 10, 14, 24, 26, 29, 30, 32, 35-37, 39, 42-44, 46, 49-51, 53, 56, 57, 58, 60, 63, 64, 69-71 and 73 depend upon one of the independent Claims 7, 9, 13, and 18-23. Since the prior art does not suggest at least one feature in the amended claims, the amendments to the independent claims 7, 9, 13, and 18-23 obviates the rejections and places the rejected claims in condition for allowance.

Claims 1, 2 and 68 stand rejected under 35 U.S.C. 103(a) in the Office Action for allegedly being unpatentable over Mase in view of Zhang and U.S. Patent No. 5,585,658 to Mukai ("Mukai"). Claims 1, 2, and 68 are patentable since Mukai does not suggest at least one feature in these claims. For instance, Mukai does not suggest forming a hole by FIB method. The Office Action acknowledges that Mukai discloses "forming a resist mask (16) and patterning (17) the resist mask by using FIB method" in figures 3a-3e. However, the present invention forms a hole by FIB method, whereas Mukai conducts patterning by using FIB method. For example, the independent Claim 1 discloses the

feature of "forming a dotted hole in said resist by patterning said resist using electron drawing method or FIB method."

Claims 2 and 28 depend upon Claim 1.

Therefore, since Mukai does not suggest a feature disclosed in Claim 1, the Applicants request that independent Claim 1, and the dependent Claims 2 and 28, be placed in condition for allowance.

Dependent Claims 25, 27-28, 31, 33-34, 38, 40-41, 45, 47-48, 52, 54-55, 59, and 61-62

The remaining rejected dependent claims, Claims 25, 27, 28, 31, 33, 34, 38, 40, 41, 45, 47, 48, 52, 54, 55, 59, 61 and 62, stand rejected under 35 U.S.C. 103(a) in the Office Action for allegedly being unpatentable over Mase and Zhang. These claims are allowable for the reasons that their respective independent claim is allowable and for reciting allowable subject matter in their own right. Independent consideration and allowance of the dependent claims are respectfully requested.

CONCLUSION

In view of the amendments and remarks, Applicants believe that Claims 1-73 are in condition for allowance and ask that those pending claims be allowed.

The foregoing comments made with respect to the positions taken by the Examiner are not to be construed as acquiescence by the Applicants with other positions of the Examiner that have not been explicitly contested. Accordingly, Applicants' arguments for patentability of a claim should not be construed as implying that there are not other valid reasons for patentability of that claim or other claims.

Attached is a mark-up version of the changes being made by the current amendment.